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ABSTRACT

The Water in Africa Project was realized over a 2-year period by a team of Peace Corps volunteers, World Wise Schools (WWS) classroom teachers, and WWS staff members. As part of an expanded, detailed design, resources were collected from over 90 volunteers serving in African countries, photos and stories were prepared, and standards-based learning units were created for K-12 students. This unit, intended for primary students, is designed to facilitate students' understandings of access to water through reading stories from Peace Corps Volunteers who served in Kenya (East African region) and Ghana (West African region). Each student will make a book comparing access to water in the United States, Kenya, and Ghana. An overall goal is to develop students' understandings of the similarities and differences of water use by the people in Kenyan and Ghanaian communities and their own community. The unit, which contains many photos of Kenya and Ghana, can be used in reading and writing classes. Two to three weeks are needed for completion. The unit lists materials needed, outlines applicable standards, poses discussion questions, and gives student objectives. It details day-by-day procedures for the teacher, gives a reading rubric and a writing rubric for assessment, suggests follow-up/enrichment activities, and lists five print resources. (BT)

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World Wise Schools

Water in Africa

PEACE CORPS

Drip Drop: Access to Water

http://www.peacecorps.gov/wws/water/africa/lessons/

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Water in Africa is a project of Peace Corps World Wise Schools.

2000

Funded through a grant from the Department of Education, the Water in Africa project was realized over a two year period by a team of Peace Corps Volunteers, World Wise Schools' (WWS) classroom teachers, and WWS staff members. Inspired by an idea of one creative WWS teacher, the project eventually expanded into a detailed design. The development and implementation of the design included the collection of resources from over 90 Volunteers serving in African countries, the preparation of those photos and stories, and the creation of standards-based learning units for K-12 students.

Drip-Drop: Access to Water

Description:

This unit is designed to facilitate students' understandings of access to water through reading stories from Peace Corps Volunteers who served in Kenya (East African Region) and Ghana (West African Region). As a product of this unit, each student will make a book comparing access to water in the United States, Kenya and Ghana. An overall goal is to develop students' understanding of the similarities and differences of water use by the people in Kenyan and Ghanaian communities and their own community.

Timeframe: Two to three weeks depending on abilities and skills of the students

Curricular Areas: Language Arts: Reading, Writing

Grade Level: Primary Grades 1-2 (Can be adapted to Intermediate Grades 3-5)

Materials

- Kids World on the Peace Corps Web site kids/index.html
- Student Reading Booklets: "Drip-Drop: Access to Water in Kenya,"
- Access to Water in Ghana," (copies needed for teacher and students)
- Images from Kenya
- Images from Ghana
- Venn Diagram
- Writing Evaluation Rubric
- Reading Evaluation Rubric
- Maps and globes
- Digital image software (optional)
- Writing booklets for students
- Optional: Word Processing software to author reading booklets

Standards

Language Arts Standard 1: Demonstrates competence in the general skills and strategies of the writing process

Benchmark-- Prewriting: Uses prewriting strategies to plan written work

Benchmark-- Drafting and revising: Uses strategies to draft and revise written work

Benchmark-- Editing and publishing: Uses strategies to edit and publish written work. Evaluates own and others' writing

Benchmark-- Dictates or writes with a logical sequence of events

Benchmark-- Dictates or writes detailed descriptions of familiar persons, places, objects, or experiences

Essential Questions

Why is water valuable?

How does your access to water influence the way you live?

Objectives

- Students will use maps and globes to locate the continent of Africa, two regions in Africa, and the countries of Ghana and Kenya.
- Students will use reading skills and strategies to learn the content of narratives and images from Peace Corps Volunteers who served in Kenya and Ghana.
- Students will use reading skills and strategies to develop understandings of the similarities and differences relating to daily uses of water resources.
- Students will develop enduring understandings of how water is a valued resource for life.

Procedure

Procedure: Day One

Please Note:The teacher may choose to use images/stories from both African countries (Kenya and Ghana) to provide students with understandings of different regions of Africa or may choose just one African country depending on the classroom curricular goals and time available. If the geography units are taught before or in conjunction with this unit, the activities for day one will simply be review.

As a product of this unit, each student will make a book comparing access to water in America, Kenya and Ghana. Each time they study a new country, they will write a narrative, and draw pictures. The narratives are revised and edited. This process will take place throughout the unit.

Optional: Before you begin the unit, send a letter home to parents communicating information about the Drip-Drop learning unit, including a summary of goals and activities. Include the Water in Africa Web site URL.(http://www.peacecorps.gov/water/africa/) Encourage parents to connect to this unit on the Peace Corps web site at home or at the local public library. Communicate with your local public library about creating an educational link to the Water in Africa Web site as a resource for parents and students in the class.

1. Write "access to water" and ask the students what they think this means. Talk with the students about what they know about access to water in their community and generate a list of their experiences. Write the list on large chart paper and keep it hanging in the

classroom as reference for the students. Explain that they will be learning about how some people in the African countries of Kenya and Ghana get their water each day, and will be comparing it to the access to water in their own community.

Procedure--Day Two

1. Take students on a field trip to a local water treatment site. Take a camera and take pictures of the various steps in water treatment. (Optional: Use a digital camera to take pictures on the field trip. Have the class view the images as a slide show and create/publish a photo journal with descriptive text for each image. Another option is to allow students to bring disposable cameras to take their own photographs.)

2. Prior to or after the field trip, read The Magic School Bus at the Waterworks by Joanna Cole, Scholastic Inc.1986. Or, if a field trip is not feasible, this book may be read instead.

3. Another alternative if the field trip is not possible is to invite a speaker from your local water treatment facility to come and talk to the class about where the water in you community comes from and how it gets treated.

Procedure--Day Three

1. Review what the students learned on the field trip or through the book or speaker. Write students' statements on a chart labeled "What We Learned About Access to Water in Our Community."

2. Have groups of students draw collaborative pictures of what they learned and hang these around the chart.

Procedure--Day Four

Using the lists the students generated and the pictures they drew, have the students start on the product they will be creating, a book about access to water. Have them write or dictate stories and draw pictures about how their community gets water. Help students revise and edit their work using the writing process adopted in your district. For primary students, you may choose to work with the groups one at a time for 15 minutes each day or have parent volunteers in the classroom so that each group has a mentor. Have students share their work with the class.

Procedure--Day Five

(Note: If you have already taught "Splish-Splash: Daily Use of Water" unit, there is no need to teach this step. However, you may wish to review the information with the students.)

1. Explain to students that they will be learning about ways people in countries of Africa use water in their communities and homes. Tell them that they will be seeing photos and reading real life "Ways with Water" stories from Peace Corps Volunteers in the African country of Ghana and Kenya. Write the words "Peace Corps Volunteers" on the board

and ask the students what those words mean. Help students define each of the words individually and their meaning together. The goal is that the students understand that our country has an organization called the Peace Corps, which sends volunteers to countries around the world to help others and learn with them.

2. Use the Peace Corps web site, especially the Kids World kids/index.html pages to develop their understandings of Peace Corps Volunteers. Explain that Volunteers share their experiences on the Peace Corps Web site and that the class will be reading some of their stories about water in communities of Africa. Spend more time on Kids World familiarizing students with the concept of Peace Corps.

Procedure--Day Six

1. Using a political world map and globe, show the class the location of your own community, country and continent. Have a few students take turns showing the class the location of your community, country and continent. This establishes an understanding of where the place they live is located in the world. Write the name of your community, country and continent on the board for students to re-read.

2. Next show the students the location of the continent of Africa. Show them Kenya in the region called East Africa and Ghana in the region called West Africa. Have a few students take turns showing the location of these three countries and naming the regions of Africa in which each is located. Write the names of the two countries and the continent of Africa on the board for students to reread.

3. Using a political map of the continent of Africa, show the class the locations of the two countries of Kenya and Ghana. Have students take turns locating these two countries on the map continent of Africa.

4. Optional: Set up a classroom Globe/Map Center in the classroom with maps, globes and geography books that students can use to locate these countries and look at their relationship to the continent of Africa to their own country and continent.

Procedure--Day Seven

Prior to Class: Prepare the images from Kenya and Ghana by using the photographs in this lesson plan or downloading the images to your computer.
[http://www.peacecorps.gov/wws/water/africa/countries/]

Print the images from Kenya from your browser or print each separately from your saved collection and put them in a three ring binder notebook with the accompanying Access to Water in Kenya narrative. Make this available for students to use on their own after the initial introduction on the computer.

1. With the whole class or with small groups gathered around the computer, show the students the set of Kenya images that show access to water. As each image is shown, ask

the students to describe what they see. Then read or have a child read the narrative descriptions for each photo. Take time to have the students ask questions and make comments about the images. Use prompting questions such as:

- How are people in these communities in Kenya getting access to water in this picture?
- How is their access to water similar to and/or different from yours?
- What are the challenges in accessing water that you see from this picture?
- How would people meet those challenges alone and/or with others?
- Are people helping each other access water in this picture? If so, how?

2. Write down and define any words that are not familiar to the students. This can be their vocabulary list for the week. Write the words on chart paper or on the board for students to see throughout the unit.

Procedure--Day Eight

Review vocabulary from the unit by having students play games such as memory or concentration, matching up definitions with vocabulary words. For informal assessment repeat the sequence of photos and ask the students to reread the captions and then give an accurate description about each of the images. Help them to verbally describe the content of the images in their own words with accuracy, using descriptive language.

Procedure--Day Nine

1. Read aloud the stories of David Frommell, Patrick Campbell, and Barbara Hinsman from "Drip-Drop: Stories about Access to Water in Kenya."(PDF or RTF) Identify unfamiliar words, define and add them to the vocabulary list. Give each student copies of the stories. You may choose to edit or revise sentences, vocabulary, and story length to accommodate students' reading skills. Depending on your class reading levels, you may choose to select more stories from the stories about the sources of water.

2. Using your classroom reading instruction process, strategies, and groupings, provide reading instruction to students. Check students' comprehension by having them restate what they have read, relate what they have read to their own experiences, and share their own ideas, reflections and responses about what they have learned from reading.

3. Record the ways Barbara Hinsman's community in the Rift Valley, Patrick Campbell's community in Mombasa, and Barbara Hinsman's Vigeze Village community have access to water, how often it is available, and how that availbility affects daily life.

Procedure--Day Ten

1. Review the vocabulary learned to date. Have students take turns reading the charts about access to water that are hanging around the room.

2. Have the "Access to Water stories from Kenya" available in the classroom library for students to independently re-read and practice reading with one another beyond instructional reading times.

3. Have students write a narrative and draw pictures about their understanding of water access in the Kenyan communities they learned about though the photos and stories. Point out the charts that are hanging around the room and tell students that they may use these for reference. These narratives will be revised, edited, and published in the book they are creating about water access.

4. Have each student share his or her writing with the whole class and then add the writing to his or her book about access to water. Provide opportunities for questions/comments from classmates.

Procedure--Days Eleven through Fifteen

1. Review the locations of Kenya and Ghana on a map.

2. Explain that students will begin to study access to water in Ghana. Follow the same procedures that you used previously while learning about the Kenyan communities, but substitute the images from Ghana

3. Use the "access to water" stories of Nell Todd, Amy Wiedemann, and Molly Campbell from "Drip-Drop Stories About Access to Water in Ghana."

Procedure--Day Sixteen

1. Explain to the students that they will identify similarities and differences of water access in the communities they've studied in Kenya, in Ghana, and in their own communities in the United States.

2. Draw a three-ring Venn diagram on the chalkboard with each circle labeled for a country. Explain how to use it by beginning a discussion of the water access that they have read about and written about in the past two weeks. When students mention an activity from one country, ask them whether it is similar to or different than what is done in the other two countries. Write the activity in the correct ring. Demonstrate one or two activities in this manner.

   Break the class into groups of two or three and Distribute copies of the Venn diagram. Give them 15-20 minutes to record as many similarities and differences in water access as possible. Rotate around to mentor the students in their work. For primary students, an option is to have parent volunteers or have older, intermediate students assist each group. Provide copies of "Drip-Drop Stories About Access to Water in Kenya" and of "Drip-Drop Stories About Access to Water in Ghana" for each group as a reference. Have printed copies of the country images and their narratives available for reference also.

4. Bring the whole class together in front of a classroom writing board with the three-ring Venn diagram. Have each group share their answers while you record them onto the large Venn diagram on the board.

5. Collect the Venn diagrams for assessment purposes and to be used by the groups when they complete their writing assignment. Assess their Venn diagrams for number of ideas and accuracy of content.

Procedure--Day Seventeen

1. Distribute the Venn Diagrams the students completed the previous day. Ask them what they can tell about access to water in these communities by looking at their diagrams.

2. Elicit statements and write them down as samples for the students, for example: Some people in our community, in Kenya and in Ghana get their water from wells. People in some communities in Kenya and Ghana do not have water from a faucet.

3. Have students work with a partner to write more about similarities and differences. If possible, have parent volunteers or intermediate grades students assist the pairs of students. This will be the last part of the book on access to water.

4. Tell each student to draw a picture to illustrate his/her comparison page.

Procedure--Day Eighteen

1. Give the students all the pages they have written about access to water. Help them put them in order. Tell them to think of a title for their books, and then help them create a cover that includes the title and themselves as author.

2. Help each child bind his/her book.

3. Have students read their books aloud to each other. Arrange for them to read them to other audiences in the school, home, and community.

Assessment

Reading Assessments

Use the reading rubric that is provided to assess your students' ability, or alternatively, use the methods that are recommended by your school or district.

Writing Assessments

Use the writing rubric Esread02sup06 that is provided to assess your students' ability, or alternatively, use the methods that are recommended by your school or district.

Follow-up/Enrichment Activities

1. Ways with Water Classroom Library: Using the Internet for a student literature search, the local school or community library, or a bookstore, the teacher can identify and locate student literature for additional reading materials for a classroom library, to be used along this unit. Books about geography and water and the countries of Kenya and Ghana will give further context to students' cultural and geographic understandings.

2. Art Lessons: Using the visual images and descriptive narratives in the reading booklets of the Drip Drop unit, have students use art materials (crayons, watercolors, markers, pencil sketches) to create their own illustrations.

3. Presentations: Have the class present their books, or parts from them, to other classes in the school. Students can choose to show images from the Web site that they think are relevant to their books.

Additional Resources

Student literature for World Geography

Where Do We Live? By Neil Chesanow. Illustrated by Ann Iosa. Barron's . N.Y 1995.

Student literature for regions of West Africa and East Africa

Kente Colors (Ghana) By Debbi Chocolate. Illustrations by John Ward. Walker and Company, New York. 1996.

1999 A.S.A. Student's Book Awards: Master Weaver from Ghana by Gilbert Ahiagble, Louise Meyer, and Nestor Hernandez (Open Hand Publishing, 1998)

Countries of the World: Kenya and Ghana. By Michael Dahl. Bridgestone Books, Mankato, MN. 1997.

Ntombi's Song (South Africa) By Jenny Seed. Illustrations by Anno Berry. Beacon Press, Boston. 1987.

About the Author

Kristi Rennebohm Franz is a primary teacher of a multiage class at Sunnyside Elementary School in Pullman, Washington. She has also taught in Nairobi, Kenya and has traveled to West and South Africa. She has authored the Ways With WaterReading Unit using a combination of her interests in Africa and interests environmental/community issues of water resources education. She says this about her unit: The Ways with Water unit was piloted in my primary classroom but is also applicable to intermediate classrooms. My class especially liked the images! These are such powerful conveyors of information and experiences to children. The students had lots of comments. I downloaded the images into a folder on my computer desktop so it was easy to view them in graphic converter software. I also liked having the narratives in a

Drip-Drop

Stories About Access to Water In Kenya

By Peace Corps Volunteers
Who Served in Kenya
in 1999

Access to Water in Kenya

By by **David Frommell**, Bagoo, Rift Valley Province, Kenya

The people of Kericho District in Kenya's Rift Valley Province enjoy an annual rainfall of 1000 mm to 2000 mm, the equivalent of 3.25 to 6.5 feet. In fact, rain falls every day in Kericho, usually during the afternoon. The hilly geology of the District results in continual flow of many small and medium-sized rivers. Kericho Town draws its water from one of these local rivers. The water intake is located in the Mau Forest, one of the few remaining natural forests in Kenya. From the intake, pumps drive water to a modern treatment facility. Kericho is one of the only towns of its size in Kenya to employ such a treatment works.

My house, located near Kericho Town, is supplied with piped water from the treatment system. The water flows clear and cold and tastes pure. Despite the good water quality at my home, I boil water for drinking to ensure that all pathogens are deactivated.

Kericho District has abundant water resources. The government Ministries of Health and Water supervise development of water resources. Community water supplies throughout the District incorporate rivers, wells, springs, and rooftop rainwater collection to ensure enough clean water is available to community members.

At times, the volume of water in Kericho District causes problems. El Niño rains during 1997 contributed to the degradation of many roads within Kericho. Standing water creates explosions in the numbers of mosquitoes and subsequently, in the number of malaria cases. The people of Kericho District will continue to be challenged in future years to develop their water resources in a positive manner.

Access to Water in Kenya

By **Patrick Campbell**, Mombasa, Kenya

Mombasa is an island in the Indian Ocean populated by about 500,000 people. Living at almost sea level surrounded by the ocean means that the water in our water table is very saline. As a result our water must be piped in from the mainland. Most of our water comes from Mzima Springs in Tsave National Park (about 200 km away). From there it is piped to Mazeras (about 20 km away) where it is treated at the reservoir. While the water is generally considered safe, many people (like myself) take the precaution of boiling drinking water. Water vendors offer another source of water as well. They push a cart around town selling water (usually tap) for between five shillings (7 cents) to fifty shillings (67 cents) for twenty liters, the price depending how scarce the water is at the time.

I am one of the lucky volunteers who have running water, although not as reliable as one would imagine. In fact, as I write this I have been without water for two days. This is common throughout Kenya, so people have adapted methods to compensate. The building I live in, for example, has tanks on the roof that fill when the water is working and store it until the water is not coming through the pipes for whatever reason. These tanks are connected to the plumbing in the building and help maintain a more constant water supply. However, if the water does not come back on within a few hours the tanks are depleted and the residents of the building are left to find their own sources of water until the piped water returns. Many of the people, myself included, have plastic barrels that we fill when the water is on and use when the water is off.

Access to Water in Kenya

By **Barbara Hinsman**, Vigeze Village, Vihiga, Kenya

Although my house in Kenya has pipes, this does not guarantee that water comes through them. I live in Western Kenya's Vihiga District, which is one of the most densely populated areas of the world with over 110 people/km2 . Therefore elements of infrastructure in Vihiga such as piped water systems, which were built in the past, are no longer adequate enough to supply the exploding population. The solution? Ration water by days. Mine is supposed to come for a couple of hours on Wednesday and Friday mornings, but it rarely comes on schedule, if at all.

On a "water morning" (whether it is scheduled to come that day or not) water trickles slowly out of one tap in the backyard. Pipes leading to the kitchen and bathroom stay dry due to low water pressure. I must remain at home these mornings and collect as much water as possible to store in plastic containers, for I have no way of knowing when it will come again. Tap water looks, smells, and tastes clean, but still I boil and filter it before drinking, just to be safe.

If the tap stays dry much longer than a week, I must resort to harvesting rainwater. Luckily Vihiga is high potential area--it rains here most months of the year. I have spent many evenings eagerly watching the sky, hoping that the rains will come to fill my basins. Rain water that runs off of the overhanging roof is noticeably dirtier than the tap water, but after boiling and filtering it this water is very much potable.
During the dry season (December-February), both tap water and rain are difficult to come by. My plastic containers run dry. Simple tasks like cooking, washing dishes and clothes must be postponed so that I can ration the little water I have between drinking and bathing. As a last

resort I must buy water from the mamas who fetch it at the river. This water can be used around the house, but I will not consume it. One time the water I received from the river smelled like gasoline.

Drip-Drop

Stories About Access to Water In Ghana

By Peace Corps Volunteers
Who Served in Ghana
in 1999

Access to Water in Ghana

By Molly Campbell, Amisano, **Ghana**

The rainy season here in the Central Region of Ghana is never the same from year to year. One year there may be an over abundance and the next year a drought. This crazy weather pattern makes it difficult for farmers, market ladies, and families. The worry of water is always on their minds.

There is a seminary about a quarter of a mile from the center of the village that fortunately has a bore hole that villagers are allowed to use. The water from this bore hole is very clean and can be drunk without treatment. The village also has three wells where clean water can be drawn; however during the dry season the chances of these drying out are common. The river is very near and is still the main source of water for bathing and washing while the wells and bore hole is used for cooking and drinking.

The village also has piped water, however there is a charge to use it so only a small number use the piped water. This is my main source of water. The water comes from Cape Coast, about twelve to fourteen miles from Amisano, therefore it is not always reliable. Pipes break frequently and during the dry season, the water is turned off weekly to help conserve. I have a barrel I keep full, but during water shortages I obtain water from the bore hole.

Access to Water in Ghana

By **Nell Todd**, Mafi-Dove, Ghana

I fetch my water from one of the eight bore holes that are in my village. A bore hole is similar to a well, except it is smaller in diameter and a plastic pipe lines it. At the water table the pipe has tiny holes or slits in it to allow the water to come in. The plastic pipe is surrounded by a sand and gravel mixture, which acts as a natural filter. A pump is attached to the plastic pipe. We draw the water by hand. Each of the eight bore holes has a distinctive taste, and most people have a preference as to which they like best. Some have a salty taste, others have high iron level.

Fetching water is often done by women and small children. The bore holes are not only a source to get water, but it is a social place as well. Often I'll see children playing games (a game similar to rock, paper, scissors, but instead of using your hands girls will jump up and down, moving their legs in different directions while clapping--I still haven't quite figured it out!)

The water that I use has some silt in it due to improper construction of the gravel filter. After it settles for some time it is clear. I put the bore hole water through a filter (which the Peace Corps provides) to make it safe for drinking.

The other source of water is the river. Many people have stopped using it for drinking, but they still like to bathe and wash clothes with it because it lathers well! ("Sister Ana, we use too much soap if we use the bore hole water.")

Access to Water in Ghana

By **Amy Wiedemann**, Gbefi, Volta Region, Ghana

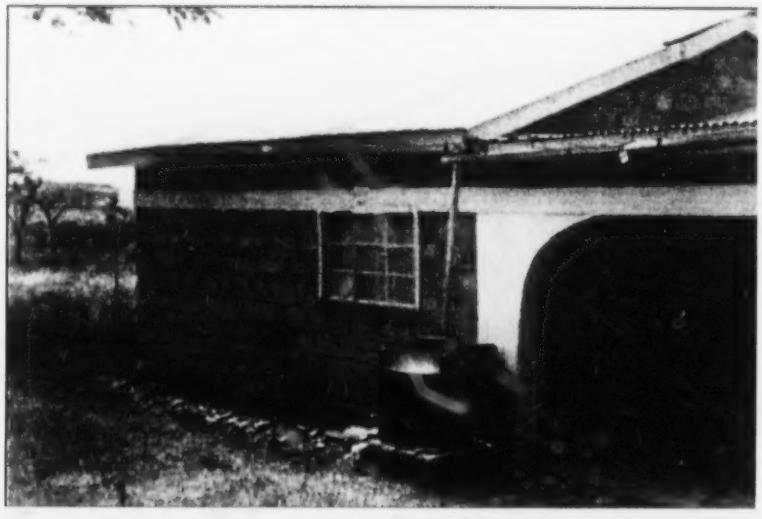
In my community there are three sources of water. First, there is the River Dayi and some other smaller streams and tributaries. The community also has two bore holes which are in effect covered hand-dug wells, with manual pumps at the top. And then there is the water from above, rainwater.

In my community, the availability of water is not a problem thanks to the tremendous amount of rainfall that we receive. Not only do people collect this rainwater at their homes with gutters that lead to storage drums, but the rain also keeps the River Dayi at a higher level and constant flow.

Despite being very hard, the bore hole water is definitely the cleanest and ready for immediate consumption. The rainwater in and of itself is good, however its contact with dusty, metal roofs and dirty gutters generally leaves the first bucket collected quite dirty.

The River Dayi remains the number one water source for the people of Gbefi, despite its volume of sediment and dirt. As to the reasons for its top billing, it's the most consistent and has been there the longest, whereas the bore holes are about fifteen years old. Also, there are only two bore holes for a community of around three thousand which leads to a great demand and long lines. There are never any lines at the river.

IMAGES FROM KENYA



We collect rainwater in this black tank (400 litres) from our roof. During the rains the water over flows, so we frequently empty it into other buckets.

by Drew Denzin

Ololulunga, Kenya (1999)

PCV Drew Denzin and Calvin are filling water for Calvin's family from the Ewaso Nyiro River. He is filling jerry cans that will last two days. Even though the water is very dirty, it will be used for everything.

by Drew Denzin

Ololulunga, Kenya (1999)

IMAGES FROM KENYA

It is unusual to see males like this young man fetching water. He is filling a water jug at the Miharati town dam and will use the water to wash clothes.

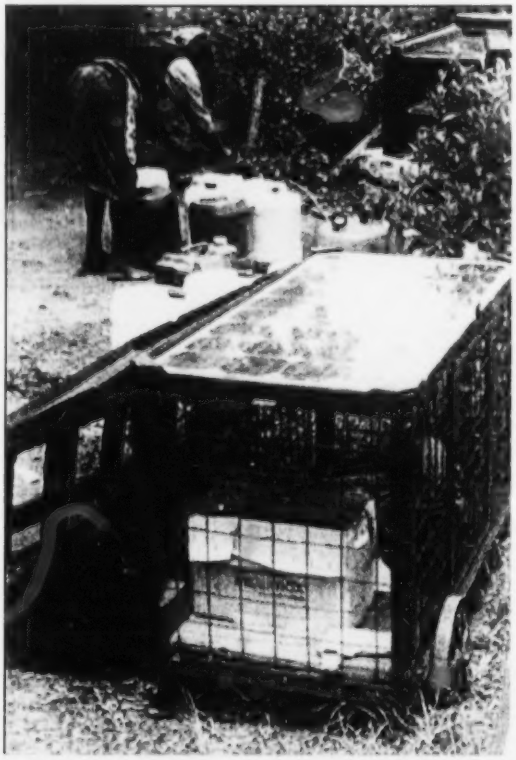
by Kendall Rondeau

Miharati, Kenya (1999)

Solar panels power the pump that brings water to the black plastic water tank in the background. Solar energy is becoming more and more popular in Kenya although it is still expensive.

by Kendall Rondeau

Gilgil, Rift Valley, Kenya (1999)



IMAGES FROM KENYA

Zebras and other animals living in dry areas such as this have to travel long distances for water. Fencing of nearby farms is slowly cutting off animals from water sources.

by Kendall Rondeau

Naivasha, Rift Valley, Kenya (1999)

PCV Kim Shumlansky is with Mama Jerry in the tea fields. The altitude and heavy rains of Kangaita are good conditions for the tea to grow.

by John and Kim Shumlansky

Kangaita, Kenya (1999)

IMAGES FROM GHANA

Ekua Kwaako, a Nursery worker in the Peace Corps Project Nursery in Amisano, Central Region in Ghana, draws water from the reservoir to begin the process of hand-watering thousands of tree seedlings.

by Molly Campbell
Amisano, Ghana (1999)

PCV Molly Campbell and Peace Corps Project Nursery workers inspect while the nursery's reservoir is filled. Water is being pumped into the Nursery's reservoir so seedlings can be hand-watered during the dry season.

by Molly Campbell

Amisano, Ghana (1999)

IMAGES FROM GHANA

Kojo (whose name means Monday born) is crossing a small stream to a nearby village. This stream is the traditional source of water (drinking and bathing) for the village. Bore holes are now in the village for safe drinking water and to prevent diseases caused by drinking river water.

by Nell Todd
Mafi-Dove, Ghana (1999)

Samuel is pumping water from one of the eight bore holes in the village. The bore holes are a social gathering point for women and children. The pump was specially made in Ghana to allow local people to easily maintain and repair it.

by Nell Todd

Mafi-Dove, Ghana (1999)

IMAGES FROM GHANA

This water pipe is used to pump water from the Volta River to the town of Adidome, where people then fetch water from the standpipes. The Volta River is downstream from the dam that created the largest manmade lake in the world. Damming the river has damaged its ecology; however, the dam is used for creating electricity in the area.

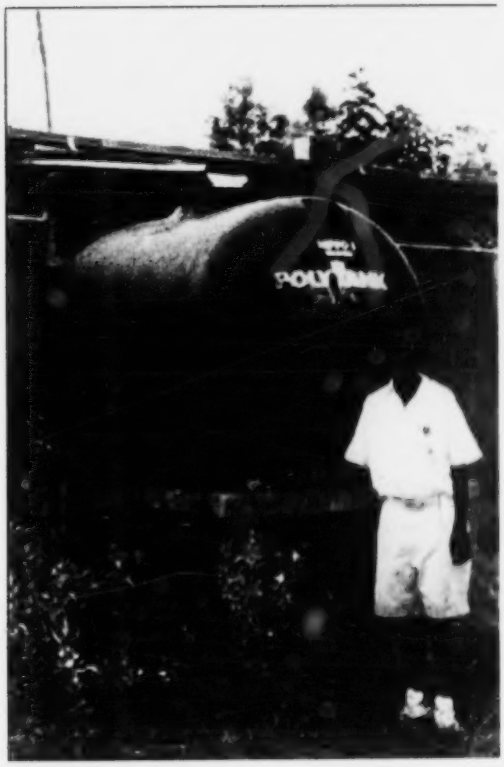
by Nell Todd
Mafi-Dove, Ghana (1999)

This boy is helping the young girl lift her bucket. Water is so heavy, and generally the containers are so big, that it is impossible to lift them alone.

by Amy Wiedemann

Gbefi, Ghana (1999)

IMAGES FROM GHANA



Kwame, a Junior Secondary School Form 2 student, is showing off the rain catchment system and poly tank that feeds the tap at the school latrine.

by Amy Wiedemann
Gbefi, Ghana (1999)

Edem is scooping the water from the big basin to a smaller bucket that he can carry. Because of the long lines at the bore hole it is generally more efficient for children to draw the water into a big container and then either make trips with a smaller bucket (like Edem) or call on someone bigger from their house to come and carry it.

by Amy Wiedemann

Gbefi, Ghana (1999)

IMAGES FROM GHANA

Toga is pulling water from the well in a container made from the inner-tube of an automobile tire.

by Steve Tester

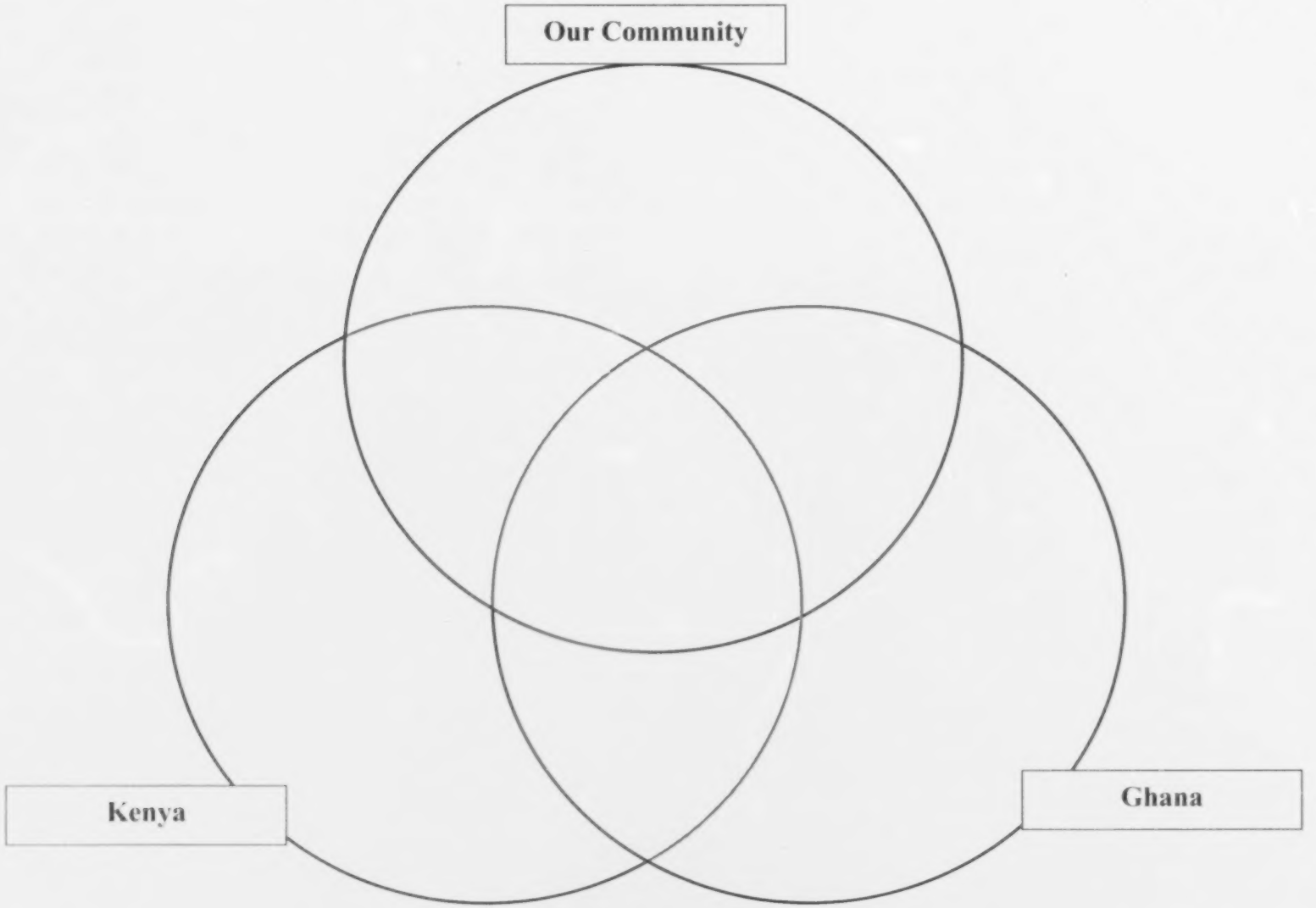
Odumase-Krobo, Ghana (1999)

Gifty Amenu is bringing water to my house. Because I am a teacher, the children do not allow me to carry my own water.

by Chris Botzman

Akome, Volta Region, Ghana (1999)

Venn Diagram to Compare Kenya, Ghana, and Our Community



Writing Evaluation for Drip-Drop: Access to Water

Student Name_____

Date _____

3 = With No Assistance **2 = With Some Assistance** **1 = Unable to Articulate**

Area	Points	Descriptors
Content Accuracy	_____ _____	The student: • Wrote or dictated with a logical sequence of events • Used frequently used words to convey basic ideas
Content Depth	_____ _____	The student: • Included detailed descriptions of persons, places, objects, or experiences • Used information from pictures, stories, charts, maps, and personal experience
Process	_____ _____ _____	The student: • Used complete sentences • Used nouns, verbs, adjectives, and adverbs • Used prewriting, drafting, revising, editing, and publishing strategies
Presentation and Neatness	_____ _____	The student: • Formed letters in print and spaced words and sentences • Used conventions of spelling, capitalization, and punctuation
Creativity	_____ _____	The student: • Created an original book cover • Included pictures to illustrate the stories
Total		

Comments:

Reading Evaluation for Drip-Drop: Access to Water

Student Name_____

Date _____

3 = With No Assistance **2 = With Some Assistance** **1 = Unable to Articulate**

Area	Points	Descriptors
Content Accuracy	_____ _____ _____	The student: • Used self-correction strategies • Summarized information from a variety of materials • Asks and responds to questions about the texts
Content Depth	_____ _____ _____	The student: • Related new information to prior knowledge • Used picture clues and captions to aid comprehension and make predictions • Generates questions about topics of personal interest
Process	_____ _____ _____	The student: • Decodes unknown words using basic elements of phonetic analysis • Applies reading skills and strategies to a variety of informational materials • Gathers information through the reading process
Presentation and Neatness	_____	The student: • Reads aloud familiar stories and passages with attention to rhythm, flow and meter, prose and difficulty of the material
Creativity	_____	The student: • Makes insightful or creative contributions to group discussions about what has been read
Total		

Comments: